

REMARKS

Applicant wishes to thank Primary Examiner Chang for the courtesy of a short phone conference on October 12, 2007. The feature of the erase pulse 70 of the *Weber* U.S. Patent No. 5,745,086 not being a teaching of applicant's set-up pulse was discussed and applicant proposed submitting a Rule 116 Amendment with claim amendments to distinguish the erase pulse of *Weber* and filing an RCE to enable the Examiner to consider any additional prior art.

The present invention results from the discovery that by using certain set-up pulses, the contrast and drive time to produce higher quality images on a plasma display panel could be increased. (Pg. 5, lns. 26-27). As high definition televisions have become increasingly popular, more pixels are required in a television display. This increase in the amount of pixels requires a corresponding increase in power consumption. However, there is also a need to accurately prime the wall charges in the discharge cells to ensure accurate discharges at the appropriate energy levels and time. Thus, there is a need to balance the energy required and accuracy required. In order to accomplish this, the present invention uses a particular set-up pulse to charge the walls of the discharge cells. By priming the charges in the walls of the discharge cells, the discharge of the cells can be more uniform and furthermore, premature discharges can be prevented. By using a set-up pulse with a waveform that rises at an average voltage change rate of no greater than 6 V/ μ s, and that starts to fall at a rate greater than the average voltage change rate at a time period of the rising, the present invention increases the contrast in the plasma display panel.

The Office Action rejected claims 51-81 under 35 U.S.C. §103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of *Weber* (U.S. 5,745,086).

Weber is directed towards created standardized wall potential at each pixel site along each row electrode. (Abstract). It accomplishes this by using a row signal during the set-up period that exhibit a slope that is set to assure that current flow through each pixel site remains in a positive region of the gas's discharge characteristics, which assure a relatively constant voltage drop across the discharge gas to form predictable wall voltage states. (Abstract).

Weber, however, does not teach the feature of "a set-up step for applying a set-up pulse to each of the plurality of discharge cells to increase wall charges in the discharge cells, wherein the set-up pulse applied in the set-up step has a waveform that rises at an average voltage change rate of no greater than 6 V/ μ s, and that starts to fall at a rate greater than the average voltage change rate at a time period of the rising."

The Office Action cites to erase pulse 70 in *Weber* for the purported waveform feature of the present invention. However, erase pulse 70 is an erase pulse as opposed to a set-up pulse in the present invention. *Weber* discloses that erase pulse 70 acts to "erase any pixel sites which are in the ON state," see Column 8, Lines 61-67 as follows:

Initially, controller 50 causes Ysb sustainer module 56 to generate an erase pulse 70 (see FIG. 11) which is impressed on all sustain lines 26 and acts to erase any pixel sites which are in the ON state. This initial erase action has been previously taught by Criscimagna, et al. in U.S. Pat. No. 4,611,203. While erase pulse 70 manifests a ramped leading edge, the slope of that edge is not critical.

The erase pulse in effect erases or reduces any latent current wall charges of pixel sites that were activated (on) to provide a previous image.

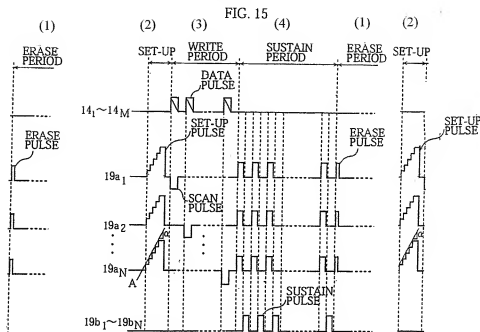
Roughly like wiping a blackboard clean to prepare it for a subsequent writing.

The actual cycle is (1) an erase pulse, (2) a set up pulse to increase wall charges to an optimum level for (3) a write period followed by 4) a sustain period.

As can be seen in *Weber* Figure 11, the erase pulse 70 is incorporated as the initial waveform pulse prior to the actual set up pulse. As noted in *Weber*, the slope of the leading edge of the erase pulse is “not critical” and does not teach $6 \text{ V}/\mu\text{s}$.

The subsequent comparison chart discloses a modified Figure 15 of applicant’s disclosure relative to *Weber* FIG. 11 to place the erase pulse in proper perspective, since applicant and the *Weber* reference simply label the waveform with different legends but the same general cycle is disclosed in each waveform.

Applicant



U.S. Patent 5,745,086

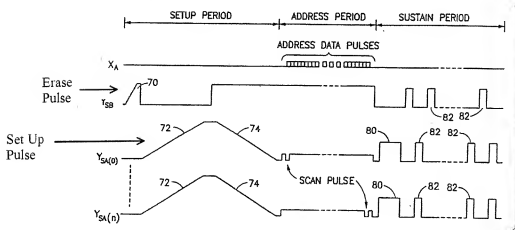


FIG. 11

In contrast to the *Weber* teaching, the present invention provides a waveform of a set-up pulse that primes the discharge cells by preparing them for discharge at the appropriate time.

(Pg. 4, lns. 5-6). Furthermore, by providing a set-up pulse that rises at a rate no greater than $6 \text{ V}/\mu\text{s}$, the light emitted by the set-up pulse discharge is much weaker than that emitted by the sustain discharge and the contrast is almost totally unaffected. (Pg. 28, lns. 4 – 8).

All arguments for patentability with respect to Claim 51 are repeated and incorporated herein for Claims 58, 65, 72, 80 and 81 and the new Claims 82-99.

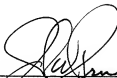
Dependent Claims 52-57, 59-64, 66-71, and 73-79 depend from and further limit independent Claims 51, 58, 65, and 72 and are thus patentable, too.

It is believed the present application is now allowable and an early notice of the same is requested.

If there are any questions with regards to this matter, the undersigned attorney can be contacted at the listed phone number.

Very truly yours,

SNELL & WILMER L.L.P.



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